



AMENDMENT

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In the claims:

20. (Once Amended) A method of transmitting real-time data over a network comprising the steps of:
encoding the real-time data by determining the differences between the real-time data and a transmit reference to produce differential data;
storing the differential data in one of a plurality of output buffers;
selecting one of the plurality of output buffers as a current transmit buffer by determining whether the differential data in a particular [transmit] output buffer accommodates one or more characteristics of the network better than differential data in at least one other output buffer of the plurality of output buffers; and
transmitting differential data from the current transmit buffer over the network.

Unmarked Version

In the claims:

1. (Unchanged) For use in a communications network having a plurality of nodes wherein a node may encode real-time information for propagating over said network, a method of processing said real-time information comprising the steps of:
- providing said node with a plurality of output buffers;
 - (a) electronically capturing said real-time information and converting it into electronic data;
 - (b) differentially encoding said electronic data using a previously stored transmit image as a base to produce differential data;
 - (c) storing said differential data in one of said plurality of output buffers;
 - (d) monitoring said network for access to propagate said differential data;
- repeating steps (a)-(d) until said node may propagate said differential data over said network;
- transmitting data over said network from the one of said plurality of output buffers providing a best differential data to a receiving node on said network, wherein said best differential data represents a differential data whose use in conjunction with the previously stored transmit reference image produces an image that approximates a current frame better than use of other differential data contained in said plurality of output buffers; and
- calculating a new transmit reference image based on said best differential

25 data and said previously stored transmit reference image.

1 2. (Unchanged) An apparatus comprising:
2 an encoder for producing encoded real-time information;
3 a transmit reference buffer for storing a current transmit reference;
4 compression circuitry coupled to the encoder and to the transmit
5 reference buffer for producing compressed data based upon the
6 current transmit reference and the encoded real-time information;
7 a plurality of output buffers coupled to the compression circuitry for
8 storing the compressed data; and
9 a network interface coupled to the plurality of output buffers, the network
10 interface for interfacing with a network, for determining a selected
11 output buffer from the plurality of output buffers and for
12 transmitting data over the network from the selected output buffer,
13 the selected output buffer containing compressed data which
14 accommodates one or more characteristics of the network better
15 than compressed data in at least one] other buffer of the plurality
16 of output buffers.

1 3. (Unchanged) The apparatus of claim 2, wherein the selected output buffer
2 contains compressed data which accommodates one or more
3 characteristics of the network better than compressed data in all other
4 buffers of the plurality of output buffers.

1 4. (Unchanged) An apparatus for transmitting real-time information over a
2 network, the apparatus comprising:
3 an encoder for producing encoded real-time information;
4 a transmit reference buffer for storing a current transmit reference;

5 compression circuitry coupled to the encoder and to the transmit
6 reference buffer for producing compressed data based upon the
7 current transmit reference and the encoded real-time information;
8 and
9 a plurality of output buffers coupled to the compression circuitry for
10 buffering the compressed data, each of the plurality of output
11 buffers having contents, the contents of a selected output buffer of
12 the plurality of output buffers to be transmitted onto a data
13 communications channel of a network based upon one or more
14 characteristics of the data communications channel.

1 5. (Unchanged) The apparatus of claim 4 further comprising a network
2 interface coupled to the plurality of output buffers, the network interface
3 for interfacing with the network, the network interface determining the
4 selected output buffer and transmitting data over the network from the
5 selected output buffer.

1 6. (Unchanged) The apparatus of claim 5, wherein the selected output buffer
2 contains compressed data which, when used in conjunction with the
3 current transmit reference, accommodates the one or more characteristics
4 of the data communications channel better than compressed data from at
5 least another buffer of the plurality of output buffers.

1 7. (Unchanged) The apparatus of claim 5, wherein the selected output buffer
2 contains compressed data which, when used in conjunction with the
3 current transmit reference, accommodates the one or more characteristics
4 of the data communications channel better than compressed data from all
5 other buffers of the plurality of output buffers.

- 1 8. (Unchanged) The apparatus of claim 4, wherein the compressed data
2 comprises a differential between the encoded real-time information and
3 the current transmit reference.
- 1 9. (Unchanged) The apparatus of claim 4, wherein the one or more
2 characteristics of the data communications channel include bandwidth
3 availability on the data communications channel.
- 1 10. (Unchanged) The apparatus of claim 4, wherein the one or more
2 characteristics of the data communications channel include burstiness of
3 traffic on the data communications channel.
- 1 11. (Unchanged) The apparatus of claim 4, wherein the one or more
2 characteristics of the data communications channel include transmission
3 delay on the data communications channel.
- 1 12. (Unchanged) The apparatus of claim 4, wherein the encoded real-time
2 information includes video information.
- 1 13. (Unchanged) The apparatus of claim 4, wherein the encoded real-time
2 information includes audio information.
- 1 14. (Cancelled)
- 1 15. (Unchanged) An apparatus comprising:
2 an encoder for producing encoded real-time information;
3 a transmit reference buffer for storing a current transmit reference;
4 compression circuitry coupled to the encoder and to the transmit

5 reference buffer for producing compressed data based upon the
6 current transmit reference and the encoded real-time information;
7 a plurality of output buffers coupled to the compression circuitry for
8 storing the compressed data; and
9 a network interface coupled to the plurality of output buffers, the network
10 interface for selecting a selected output buffer of the plurality of
11 output buffers by determining, with reference to one or more
12 predetermined coding strategies, whether compressed data from
13 the selected output buffer is appropriate for transmission to a
14 receiving node.

1 16. (Unchanged) The apparatus of claim 15, wherein the one or more
2 predetermined coding strategies include minimizing artifacts.

1 17. (Unchanged) The apparatus of claim 15, wherein the one or more
2 predetermined coding strategies include allocating available bandwidth to
3 achieve a higher frame rate.

1 18. (Unchanged) An apparatus comprising:
2 an encoder for producing encoded real-time information;
3 compression circuitry coupled to the encoder for producing compressed
4 data based upon a previously stored transmit reference and the
5 encoded real-time information;
6 a plurality of output buffers coupled to the compression circuitry for
7 storing the compressed data; and
8 a network interface coupled to the plurality of output buffers, the network
9 interface transmitting compressed data from a selected output
10 buffer of the plurality of output buffers, the compressed data from

the selected output buffer when used in conjunction with the previously stored transmit reference approximating a next frame expected by a receiving apparatus.

19. (Unchanged) A method of transmitting data over a network comprising the steps of:
encoding the data by determining the differences between the data and a transmit reference to produce differential data;
storing the differential data in one of a plurality of output buffers;
selecting one of the plurality of output buffers as a current transmit buffer based upon one or more characteristics of a data communications channel of a network; and
transmitting differential data from the current transmit buffer over the network.

20. (Once Amended) A method of transmitting real-time data over a network comprising the steps of:
encoding the real-time data by determining the differences between the real-time data and a transmit reference to produce differential data;
storing the differential data in one of a plurality of output buffers;
selecting one of the plurality of output buffers as a current transmit buffer by determining whether the differential data in a particular output buffer accommodates one or more characteristics of the network better than differential data in at least one other output buffer of the plurality of output buffers; and
transmitting differential data from the current transmit buffer over the network.